

1 Claim 1. An article of manufacture compri- 1
2 sing: 2
3 a sheet of thermochromic material bonded to 3
4 a substrate, and 4
5 a layer of protective liquid coating said 5
6 sheet and substrate which hardens to protect the 6
7 thermochromic sheet and substrate against erosion 7
8 by atmospheric conditions or abrasion. 8

1 Claim 2. The article of Claim ¹~~1~~¹⁶ wherein: 1
2 said ^{film}~~sheet~~ is bonded to said substrate with 2
3 a resin adhesive. 3

1 Claim 3. The article of Claim 1 wherein: 1
2 said sheet and substrate are cured at a tem- 2
3 perature of approximately 100st - 1000° F. at a 3
4 pressure of up to 1000 psi for up two hours. 4

1 Claim 4. The article of Claim ¹⁶~~1~~ wherein: 1
2 said protective liquid is acrylic. 2

1 Claim 5. The article of Claim 1 wherein: 1
2 said thermochromic material is a liquid cry- 2
3 stal. 3

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1 Claim ³~~6~~. The article of Claim ~~1~~¹⁶ wherein: 1
2 said substrate is porous. 2

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5 2 Claim ⁴~~7~~. The article of Claim ~~1~~¹⁶ wherein: 1
said substrate is fiberglass. 2

1 Claim 8. The article of Claim 1 wherein: 1
2 said substrate is non-porous. 2

10 1 Claim 9. The article of Claim 1 wherein: 1
2 said substrate is metal. 2

15 1 Claim 10. The article of Claim ¹⁶~~1~~ wherein: 1
2 said article is a sports board. 2
1 Claim 11. The article of Claim ¹⁶~~1~~ wherein: 1
2 said article is a snowboard. 2

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1 Claim 12. The article of Claim 1 wherein: 1
2 said sheet is bonded to said substrate with 2
3 a resin adhesive, 3
4 cured at a temperature of 350° F and a pres- 4
5 sure of about 45 psi for one-half hour, 5
6 any supporting layer is then peeled off of 6
7 said sheet, and 7
8 said protective liquid comprises: 8
9 0 - 6 parts acrylic 9
10 0 - 5 parts catalyst 10
11 0 - 5 parts solvent reducer. 11

1 Claim 13. The article of Claim 12 wherein: 1
2 said acrylic is DCU2021, 2
3 said catalyst is DU5, and 3
4 said reducer is DT870, 4
5 available from PPG Industries, 19699 Pro- 5
6 gress Drive, Strongsville, Ohio 44136. 6

20 1 Claim 14. The method of producing an article, 1
2 said method comprising the steps of: 2
3 bonding a layer of thermochromic material to 3
4 a substrate, 4
5 curing said layer and substrate at a tempera-5
25 6 ture of approximately 100° - 1000° F. at a pres- 6
7 sure of up to 1000 psi for up to two hours, 7

8 peeling any supporting layer off of said 8
9 layer, 9
10 coating said layer and substrate with a pro-10
11 tective liquid which hardens to protect the ther-11
5 12 mochromic sheet and substrate against erosion by 12
13 atmospheric conditions or abrasion, and 13
14 air drying said layer and substrate for up 14
15 to 48 hours. 15

10 1 Claim 15. The method of Claim 14 wherein: 1
2 said protective liquid comprises: 2
3 0 - 6 parts acrylic 3
4 0 - 5 parts catalyst 4
5 0 - 5 parts solvent reducer. 5

all
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